

ABSTRACT

A novel device for breaking rocks is provided herein. The device includes a hollow cylindrical chamber having a closed lower end, a closed upper end and an access aperture in the closed upper end and an outer circumstantial surface. A cylindrical plunger is longitudinally-reciprocally disposed within the interior of the cylindrical chamber, the plunger being biased to a retracted position. The upper end of the plunger has an upper face and a converging portion below the upper face. At least two, preferably four, spools are equally disposed around the circumference of the cylindrical plunger, each spool including a converging upper end which is configured to be in slidable contact with the converging portion of the cylindrical plunger. A like at least two, preferably four, hardened inserts, is secured to an outer face of an associated spool. Each hardened insert has a partial circumferential outer surface, which is coextensive with the outer circumferential surface of the cylindrical chamber. Each spool and secured hardened insert is biased to an inner retracted position. Means are provided for applying a hydraulic pressure to the upper face of the cylindrical plunger. In this way the converging portion of the cylindrical plunger is urged to move downwardly, thereby urging the spools, together with the secured hardened inserts, radially-outwardly so that the hardened inserts project radially outwardly from the outer surface of the hollow cylindrical chamber. When the device is inserted in a hole in the rock face, such radially-outwardly-projecting inserts fracture the rock face.